Electronic TUBES

6K11

THREE-SECTION TRIODE

DESCRIPTION AND RATING

The 6K11 is a COMPACTRON device containing two high-mu triodes and one medium-mu triode. Features of the tube include separate pin connections for all three cathodes, grids, and plates; an internal shield between sections 1 and 3; a button base, and a compact glass envelope.

GENERAL

ELECTRICAL

Cathode—Coated Unipotential

Heater Characteristics and Ratings (Design-Maximum Rating System)

	Series Heater Operation*	Parallel Heater Operation*	
Heater Voltage, AC or DC	6.3†	6.3±0.6	Volts
Heater Current	0.6±0.04	0.6‡	Ampere
Heater Warm-up Time§	11	——	Seconds

Direct Interelectrode Capacitances¶

	Section 1	Section 2	Section 3	
Grid to Plate: (g to p)	1.3	1.3	1.3	μμf
Input: g to (h+k+i.s.)	1.9	1.8	1.8	μμf
Output: p to (h+k+i.s.)	1.8	0.7	1.8	μμf

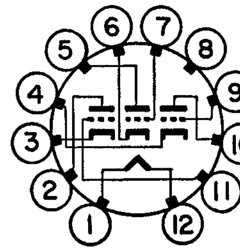
MECHANICAL

Mounting Position—Any

Envelope—T-9, Glass

Base—E12-70, Button 12-Pin

BASING DIAGRAM

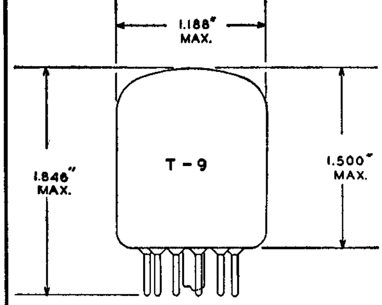


EIA 12BY

TERMINAL CONNECTIONS

Pin 1—Heater
Pin 2—Plate (Section 3)
Pin 3—Cathode (Section 3)
Pin 4—Cathode (Section 1)
Pin 5—Plate (Section 2)
Pin 6—Cathode (Section 2)
Pin 7—Grid (Section 2)
Pin 8—Internal Shield
Pin 9—Grid (Section 1)
Pin 10—Plate (Section 1)
Pin 11—Grid (Section 3)
Pin 12—Heater

PHYSICAL DIMENSIONS



EIA 9-56

MAXIMUM RATINGS

DESIGN-MAXIMUM VALUES

	Section 1	Sections 2 and 3	
Plate Voltage	330	330	Volts
Positive DC Grid Voltage	0	0	Volts
Negative DC Grid Voltage	50	50	Volts
Plate Dissipation	2.75	1.0	Watts
DC Cathode Current	20	——	Milliamperes
Heater-Cathode Voltage			
Heater Positive with Respect to Cathode			
DC Component	100	100	Volts
Total DC and Peak	200	200	Volts
Heater Negative with Respect to Cathode			
Total DC and Peak	200	200	Volts

Design-maximum ratings are limiting values of operating and enviromental conditions applicable to a bogey tube of a specified type as defined by its published data and should not be exceeded under the worst probable conditions. The tube manufacturer chooses these values to provide acceptable serviceability of the tube, taking responsibility for the effects of changes in operating conditions due to variations in characteristics of the tube under consideration.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply voltage variation, equipment component variation, variation in characteristics of all other tubes in the equipment, equipment control adjustment, load variation, signal variation and environmental conditions.

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

	Section 1	Sections 2 and 3	
Plate Voltage	250	250	Volts
Grid Voltage	−8.5	−2.0	Volts
Amplification Factor	17	100	
Plate Resistance, approximate	7700	62,500	Ohms
Transconductance	2200	1600	Micromhos
Plate Current	10.5	1.2	Milliamperes
Grid Voltage, approximate Ib = 10 Microamperes	−24	——	Volts

* For parallel heater operation, the equipment designer should design the equipment so that the heater voltage is centered at the specified bogey value, with heater supply variations restricted to maintain heater voltage within the specified tolerance. For series heater operation, the equipment designer should design so that heater current is centered at the specified bogey value, with heater supply variations restricted to maintain heater current within the specified tolerance.

† Heater voltage at bogey heater current.

‡ Heater current at bogey heater voltage.

§ The time required for the voltage across the heater to reach 80 percent of its rated value after applying 4 times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to 3 times the rated heater voltage divided by the rated heater current.

¶ Without external shield.

ELECTRONIC COMPONENTS DIVISION

GENERAL ELECTRIC

Schenectady 5, N. Y.

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